



US 20040105401A1

(19) **United States**(12) **Patent Application Publication**
Lee(10) **Pub. No.: US 2004/0105401 A1**(43) **Pub. Date: Jun. 3, 2004**(54) **APPARATUS AND METHOD FOR
REDUCING POWER CONSUMPTION IN
AD-HOC NETWORK****Publication Classification**(51) **Int. Cl.⁷ G08C 17/00**(52) **U.S. Cl. 370/311**(75) **Inventor: Seong-Hee Lee, Seoul (KR)**

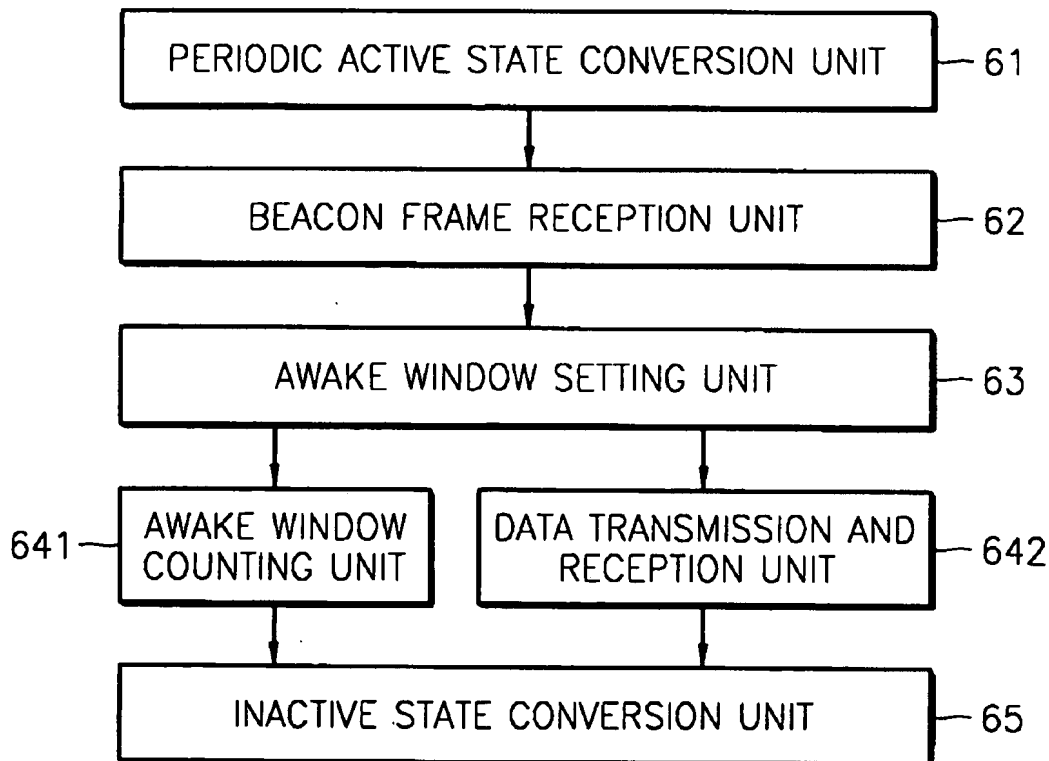
Correspondence Address:
SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037 (US)

(73) **Assignee: SAMSUNG ELECTRONICS CO.,
LTD.**(21) **Appl. No.: 10/720,539**(22) **Filed: Nov. 25, 2003**(30) **Foreign Application Priority Data**

Dec. 2, 2002 (KR) 2002-76039

(57) **ABSTRACT**

A power consumption reducing apparatus and method are provided wherein the apparatus includes a periodic active state conversion unit which converts an inactive state into an active state; a beacon frame reception unit which, in an active state, receives a beacon frame; an awake window setting unit which sets the awake window; an awake window interval counting unit which counts the interval value in the awake window; and an inactive state conversion unit which converts the awake window into an inactive state. According to the apparatus, an active state needs to be maintained only during a window interval such that power consumption can be reduced during an inactive interval. In addition, an ATIM message is replaced by an awake window such that an ATIM message that has been regarded as a network overhead, and an acknowledgement response frame to the message are removed, that is, the network overheads are removed.



EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	8942	(dormant passive idle low\$power\$3 (low adj power\$3) non\$active sleep doze (power adj sav\$4) power\$sav\$4 inactive) and beacon\$1	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:36
L2	116550	(assign\$4 allocat\$4 reserv\$5) near3 (channel\$1 slot\$1 period\$1 frame\$1)	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:10
L3	1736	L1 and L2	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:10
L4	1563218	(updat\$4 resets reset resetting sets set setting adjust\$4 synchroni\$7 updat\$4) with (clock\$1 time\$3 period\$1)	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:12
L5	1467	L3 and L4	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:12
L6	988	L5 and delay\$1	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:13
L7	270	L6 and null	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:13
L8	235	L7 and wireless	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:13
L9	100	L8 and (ad\$hoc (ad adj hoc))	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:14
L10	102	time adj (sync\$2 synchron\$7) adj function	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:35
L11	18	L1 and L10	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:35

EAST Search History

L12	8	L2 and L11	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:35
L13	989571	(dormant passive idle low\$power\$3 (low adj power\$3) non\$active sleep doze (power adj sav\$4) power\$sav\$4 inactive)	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:37
L14	40	L10 and L13	US-PGPUB; USPAT; USOCR; EPO; DERWENT; IBM_TDB	OR	OFF	2007/08/17 12:37
L15	17	("5408506" "5509027" "5517505" "5583866" "5751702" "5875179").PN. OR ("6069887").URPN.	US-PGPUB; USPAT; USOCR	OR	OFF	2007/08/17 12:52
L16	12	L15 and delay\$1	US-PGPUB; USPAT; USOCR	OR	OFF	2007/08/17 12:47
L17	5	L15 not L16	US-PGPUB; USPAT; USOCR	OR	OFF	2007/08/17 12:52